

approximate monolayer coating of fullerene molecules on the substrate.

10. (Twice Amended) The process of claim 4, wherein step (c) includes:

directing the beam at an acute angle to the substrate.

12. (Twice Amended) The process of claim 4, wherein step (c) further includes steps of:

- i) focusing the beam so that the beam impinges less than all of the coating, and
- ii) moving the beam generator relative to the substrate so that the beam successively impinges substantially the entire coating.

13. (Twice Amended) The process of claim 4, wherein step (c) includes

- i) focusing the beam so that the beam impinges less than all of the coating, and
- ii) moving the beam generator relative to the substrate so that the beam successively impinges selected portions of the coating.

18. (Twice Amended) A process of forming a coating on a substrate, the process consisting essentially of the steps of:

- a) forming a coating on the substrate comprising a plurality of layers of fullerene molecules;
- b) applying a solvent to the coating at no more than about 200 degrees C for a period of time adequate to break the fullerene-to-fullerene intermolecular bond of the coating and inadequate to break the fullerene-to-substrate association/bond of the coating to thereby remove the fullerene molecules

from the coating that are not bonded to the substrate; and

- c) removing the solvent leaving an approximate monolayer coating of fullerene molecules on the substrate.

Please add the following claims 21-32:

21. The process of claim 1, wherein the layers of fullerene are removed by breaking the fullerene-to-fullerene intermolecular bond of the coating using a technique selected from the group consisting of applying beams and applying solvents to the coating.

22. The process of claim 4, wherein the temperature of the substrate is maintained no more than about 150°C during the removal of layers of fullerene molecules from the coating.

23. The process of claim 4, wherein the temperature of the substrate is maintained no more than about 100°C during the removal of layers of fullerene molecules from the coating.

24. The process of claim 4, wherein the substrate is formed of a material selected from the group consisting of metals and semiconductors and combinations thereof.

25. The process of claim 4, wherein the substrate is formed of a material selected from the group consisting of Co-Ni, Co-Cr, Co-Ni-Cr, Co-Pt, Co-Ni-Pt, Co-Cr-Ta, Co-Cr-Pt, Co-Cr-Ni-B, Co-P, Co-Ni-P, PtMn, Cu, Ru, Rh, Ta, CoPt, CoCuPt, Au, rare earth elements, transition metals, mixtures thereof, and alloys thereof.

26. The process of claim 4, wherein the fullerene molecules are bonded to the coating surface with a bond strength corresponding to a fullerene desorption temperature from the

monolayer of at least about 700 K.

27. The process of claim 4, wherein the fullerene comprises C_{60} .

28. The process of claim 18, wherein the temperature of the substrate is maintained no more than about 100°C during application of the solvent.

29. The process of claim 18, wherein the substrate is formed of a material selected from the group consisting of metals and semiconductors and combinations thereof.

30. The process of claim 18, wherein the substrate is formed of a material selected from the group consisting of Co-Ni, Co-Cr, Co-Ni-Cr, Co-Pt, Co-Ni-Pt, Co-Cr-Ta, Co-Cr-Pt, Co-Cr-Ni-B, Co-P, Co-Ni-P, PtMn, Cu, Ru, Rh, Ta, CoPt, CoCuPt, Au, rare earth elements, transition metals, mixtures thereof, and alloys thereof.

31. The process of claim 18, wherein the fullerene molecules are bonded to the coating surface with a bond strength corresponding to a fullerene desorption temperature from the monolayer of at least about 700 K.

32. The process of claim 18, wherein the fullerene comprises C_{60} .